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ADVANCE LETTER ON GENERAL BUSINESS CONDITIONS

February 1, 1921

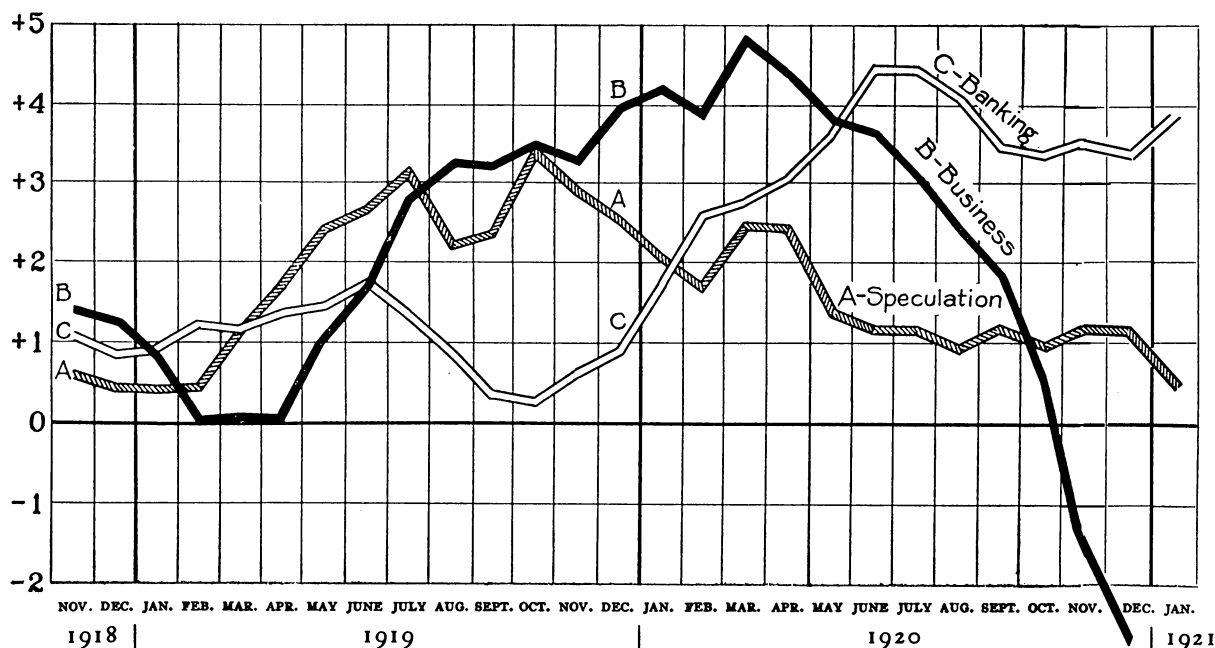
THE INDEX

THE recent movements of the curves of our Index Chart appear to indicate that the revival of business which we expect to develop during the spring months will be of only moderate proportions. The grounds for this conclusion—which at this date is necessarily tentative—are found in the continued dragging of the speculative curve, and more particularly in the comparatively slow easing of money rates. As

ever, that the federal reserve system has a stabilizing influence on commercial rates, so that seasonal variations are now less than they were in pre-war times. Actual average rates in January were a shade lower than in December.

SPECULATION

The volume of sales on the New York Stock Exchange last month was approximately 17,240,000 shares, a decrease of 29 per cent from the December total, com-



INDEX CHART. The items locating curves A, B, and C all refer to *complete calendar months* and the points are plotted in the middle of the spaces allotted to the months.

EXPLANATION: Each of the three curves on the Index Chart is obtained by averaging a group of statistical series, each group being composed of series homogeneous in character; i.e., when corrected for the seasonal influence and normal growth, the series of each group move in the same direction (upward or downward) at the same time. The series were all expressed in comparable units before averages were taken.

Our interpretation of the fluctuations of the three curves of the current index chart is based upon the relationship which was discovered among similar curves for the period 1903-14. All three curves had wave movements, but the upward swings and the crests of the waves were not reached simultaneously. The major movements of speculation preceded those of business by 4 to 10 months, and the movements of business preceded those of banking by 2 to 8 months. The sequence of movements holding for upward swings and crests also held for downward swings and troughs.

The rise of curve A, representing speculation, between February and October 1919 forecasted the rise of curve B, representing business, which took place between April 1919 and March 1920. Low interest rates, curve C, facilitated expansion of both speculation and business until the federal re-

serve banks, in November 1919, inaugurated their policy of increasing rediscount rates.

The persistent decline of curve A and the equally persistent rise of curve C, both movements beginning in November 1919, forecasted that a decline of business activity and commodity prices, curve B, would be inaugurated in the spring of 1920. In fact business unsettlement was noticeable in April and it has increased since that month while various indices of commodity prices have receded since May. The existence of the federal reserve system and the action of the banks in increasing rates and restricting credit made it appear very unlikely that the business readjustment indicated by the index chart would be accompanied by a financial panic. At this writing, we have passed the time in the business cycle when a financial panic would have occurred, if we were to have one.

Finally, the decline of curve C from the crest reached last summer and the halt in the rapid decline of curve A beginning in July 1920, indicate that the recession of business, curve B, now in progress will end in the spring of 1921. The prospect for the next two months is a slowing down in the decline of wholesale commodity prices, an easier money market, and increasing security prices.

we pointed out in our last letter, it is the course of the latter which will largely condition the next upward swing of business.

In January curve A, representing speculation, reached a new low point. This change is due to a considerable decline in the volume of trading, both shares traded on the New York Stock Exchange and New York bank clearings having fallen from the December levels. The average price of industrial stocks, on the other hand, showed some improvement. Curve C, commercial paper rates, rose somewhat, the change in this case being the result of the correction for normal pre-war seasonal variation. It seems probable, how-

pared with an average seasonal increase of 11 per cent. New York bank clearings decreased from 20,980 millions in December to 18,570 millions in January, or 11 per cent. In the past, January clearings have usually been greater than those of December by about 6 per cent.

During the second half of the month both railroad and industrial stocks lost some of the gains they had made since Christmas, the slump in each group being about two points, but most of the loss has been regained during the past week. We regard recent movements in security markets as a normal minor fluctuation in a generally upward trend. Further encouragement is to

be drawn from the fact that this recovery took place in the face of a slight stiffening in call money rates.

BANKING

The outstanding feature of the credit situation is the comparative slowness with which easier conditions are developing in the money market. The fact of improvement is unmistakable in all fundamental relations — federal reserve ratios, rediscounting, interdistrict borrowing; but the six months which have elapsed since the peak of the credit stringency have witnessed a much less substantial decline in market rates than occurred after previous crises in this country. For this there are several reasons. The drastic liquidation in commodity markets and the serious difficulties in certain export markets have made it necessary to “carry” many borrowers for more or less extended periods — a process not yet completed. Moreover, since this was accomplished largely with the aid of the federal reserve banks, the extrication of these borrowers from their difficulties does not release an equal amount of funds for other uses; it merely enables the member banks to reduce their liabilities to the reserve banks. And finally, the growing realization that we shall have to draw heavily on our credit resources in restoring our foreign trade introduces a factor not present in previous periods of business recovery.

The condition of the federal reserve system continues to show improvement. Since January 14 the ratio of the reserves of the combined reserve banks to their liabilities has risen from 48.1 per cent to 49 per cent and bills on hand have decreased from 2,653 millions to 2,621 millions. The adjusted reserve ratios of all the reserve banks that have been relatively heavy borrowers are higher than at any time for several months. Richmond, St. Louis, and Kansas City are no longer borrowers, while Minneapolis has reduced its rediscounts with other reserve banks to slightly over two millions.

PRODUCTION, PRICES, AND AGGREGATE VALUES OF CROPS

The prices of such commodities as cotton, wheat, and sugar are supposed to move upward, in general, when crops are small and to move downward when crops are large. We know, however, that the prices of such commodities also fluctuate during business cycles with the prices of non-agricultural products. Which one of these two price tendencies for crops is the more important? In investigating this question we will consider the relation between, first, the volume of physical production of 12 leading crops of the United States and their prices, second, the volume of physical production and aggregate values and, third, prices and aggregate values. The figures for physical production, prices, and values by years for the period 1879-1920 are given in the accompanying table.

Prices and production of the 12 crops moved inversely during the period 1879-1914. The degree of inverse

INDEX OF PHYSICAL PRODUCTION, INDEX OF PRICES, AND RELATIVE AGGREGATE VALUES OF TWELVE LEADING CROPS IN THE UNITED STATES,* 1879-1920

(Arithmetic average for 1909-13 = 100)

Year	Index of physical production	Price index	Relative aggregate value	Year	Index of physical production	Price index	Relative aggregate value
1879	47.1	83.1	41.7		...	...	...
1880	51.0	86.6	46.1		...	...	...
1881	41.5	110.4	48.5	1901	71.8	85.3	63.5
1882	53.3	88.3	48.8	1902	91.4	72.0	67.4
1883	52.5	80.6	43.9	1903	84.4	80.2	68.6
1884	56.7	70.9	41.6	1904	93.3	80.2	75.6
1885	57.1	71.1	41.4	1905	94.5	78.4	74.9
1886	54.9	71.5	40.2	1906	100.5	77.7	78.5
1887	53.3	81.1	44.1	1907	90.4	94.4	86.9
1888	60.8	73.3	45.8	1908	95.5	94.2	91.5
1889	63.7	62.2	40.3	1909	95.0	103.1	99.1
1890	55.8	86.1	48.6	1910	99.1	96.4	96.1
1891	70.4	72.6	53.7	1911	94.1	103.5	98.7
1892	60.3	73.4	45.8	1912	111.0	90.6	101.0
1893	61.4	67.2	43.4	1913	98.2	106.4	105.1
1894	60.5	66.2	41.8	1914	108.5	93.6	105.4
1895	70.3	56.0	40.3	1915	113.4	97.8	114.7
1896	75.7	51.9	41.0	1916	100.4	148.5	150.6
1897	76.7	59.3	47.6	1917	108.5	202.8	224.2
1898	83.4	56.3	48.6	1918	107.1	213.9	234.1
1899	80.4	61.2	50.6	1919	110.6	230.1	259.4
1900	80.9	70.8	57.8	1920	116.0	131.9	165.5

* The crops included are: corn, cotton, hay, wheat, oats, white potatoes, sugar, barley, tobacco, flaxseed, rye, and rice.

The indices for prices and for production were secured in each case by expressing the actual items of the constituent series as percentages of their respective arithmetic averages for 1909-13, and then taking weighted geometric means of these relatives, using as weights the average annual values of the various crops for the five-year period 1909-13. The index of physical production was published in the REVIEW for September 1920, p. 255.

The relative aggregate values were secured by expressing the total annual value of the crops in each year as a percentage of their average total value for 1909-13.

correlation is expressed by the coefficient $-.82$, where -1.00 would indicate the maximum inverse year-to-year fluctuation and $+1.00$ would indicate the maximum direct year-to-year fluctuation possible.

The size and the aggregate value of the 12 crops were uncorrelated during 1879-1914. The degree of correlation is expressed by the coefficient $-.04$, where 0 denotes lack of either direct or inverse correspondence between the year-to-year fluctuations.

The aggregate value of crops depends much more upon prices than upon the volume of the crops. The degree of correlation between average prices and aggregate values for 1879-1914 is $+.52$ compared with $-.04$ for production and aggregate values.

We conclude, therefore, that probably the most important influence on price changes of crops from year-to-year is production of those crops, and that variations in total crop values depend much less upon variations in production than upon variations in prices.